

**Request for Information (RFI)**  
**DARPA-SN-10-52**  
NAC – Negotiate Across Cultures

*“Stories illustrate points better than simply stating the points themselves because, if the story is good enough, you usually don’t have to state your point at all; the hearer thinks about what you have said and figures out the point independently.”*

- Roger Schank, To Tell a Story (1990)

The Defense Advanced Research Projects Agency (DARPA) Information Processing Techniques Office (IPTO) is requesting information on areas of research into approaches to cross-cultural negotiation in the human terrain through narrative. The object of this research is one or more culturally-aware computer-based negotiation tools for use by parties with minimal common language skills.

Through negotiation we want others to understand our position, we want to understand theirs, and we want to come to a mutual accommodation of both. Yet understanding and accommodation are gained neither by imposing a choice nor by simply describing it. Instead negotiation is best served by a culturally-specific narrative that explains why we hold a position, how it relates to other parties, and how it affects all parties both positively and negatively. Further, negotiation is not simply achieving one’s goals but rather it is aligning all of the participant’s goals with each other so as to agree upon a set of *shared goals*.<sup>1</sup> Across cultures and languages, this task is more than difficult because of possibly opposing but unknown goals, groups’ unacknowledged positions, and the unspoken stories that brought about the situation. DARPA is interested in exploring innovative approaches, which can help people cross a cultural divide, that are based upon interactive stories, the implications of decisions, and the choices and outcomes associated with alternative behaviors.

In many conflicted areas of the world, education is highly desired by illiterate populations. At times, because of local cultural and societal attitudes, the local population holds a different character and flavor to education than a US or coalition military organization. Sources of funds, materials, labor, and teachers may be unknown. The safety of teachers and school houses may be quite low when the military organization is not in the local area. The local jealousies of neighboring villages that have schools may be a driving factor. All of these items must be explored with the local population, goals discussed, and a common plan for achieving these goals negotiated. This scenario will be explored in the workshop for the southwestern regions of Afghanistan. (See *Three Cups of Tea*, Greg Mortenson and David Oliver Relin, for detailed additional information.) The question of interest in such cases is what approaches and, if implemented, what tools might support human negotiators in navigating such issues, especially in non-verbal or minimum-language approaches.

To begin to answer this question, DARPA/IPTO will hold a workshop on the Negotiate Across Cultures (NAC) concept. Workshop participants will be invited based upon submitted white papers that describe approaches to the application of narratives to such discovery and negotiation

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<sup>1</sup> Or if shared goals are not possible, then agree upon at least complementary goals that conflict as little as possible.

tasks while accounting for local socio-cultural traditions, beliefs, and attitudes. Instead of formal presentations during the workshop, participant teams will demonstrate their proposed approaches to cross-cultural narrative-based negotiations by application to additional test problems chosen by DARPA.

DARPA/IPTO welcomes white paper contributions from the fields of cognitive science, cultural anthropology, artificial intelligence, art, literature, film, dance, games development, advertising and public relations, advertising, grass roots organizing, collective decision making or any other discipline for which the respondent can make an argument that the approach bears on this task. Approaches must focus on the narrative aspects of negotiation and the construction or reuse of stories. Technical areas for consideration include, but are not limited to: (1) case-based reasoning; (2) computational HSCB modeling in human terrain; (3) distributed social networks for mixed-initiative story construction and presentation; (4) psychological theories of narrative understanding and storytelling, and; (5) knowledge-based game rendering. We encourage very non-traditional approaches to this problem (e.g., a virtual tribal storyteller interacts with a human mime to produce a silent theater improvisation with audience participation).

## **WORKSHOP**

A two-day DARPA-sponsored workshop is being planned for late July or early August of 2010 for the purpose of demonstrating potential ideas for negotiation approaches and for reviewing potentially relevant research. Information presented at this workshop will contribute to the formulation of possible future areas of DARPA research with the objective of creating narrative and computer-based prototype systems through which complex military civil affairs situations could be explored and alternatives negotiated in cross-cultural contexts supplemented with only basic language training.

Workshop candidates must submit a description of and a justification for narrative-based approaches that can assist military leaders in negotiation of problems similar to those described above and descriptions of how these approaches could be implemented as computer-based tools. Workshop participants must be prepared to demonstrate their proposed approaches during the workshop. A mock competition will be held between participants. However, rather than demonstrating computer-based implementations of the approaches in computer-based tools explicitly, the participants will use a “Wizard of Oz” approach to illustrate how each approach, if implemented, would operate on selected negotiation problems within specific socio-cultural environments. In the “Wizard of Oz” approach, one or two human representatives of each participant team will listen to a problem description and manually act out the operation and structure of the tool using props they bring to the event. DARPA will provide the methods for evaluating each participant team. Two different socio-cultural domains and two different problems will be used during the mock competition. One problem will be as described above and the second will be described at the workshop. DARPA is looking for revolutionary approaches and, eventually, specific tools that will implement such approaches.

**NOTE THAT NO AWARDS WILL RESULT FROM THE WORKSHOP COMPETITION; THE WORKSHOP IS INTENDED TO BE AN EXPLORATION OF ALTERNATIVE RESEARCH DIRECTIONS ONLY.**

Space for the workshop is limited; therefore, attendance will be by invitation only and limited to three members of a team. **Invitations will be based on white papers submitted, per the instructions below, no later than 1200 noon (ET), 12 July 2010.** In addition to being invited to the workshop and participating in the competition, open discussion and interaction will be encouraged. All submissions must be unclassified and non-proprietary in their content. Accepted participants will be notified via email by 14 July 2010, and at that time will be given further details on the workshop (times, location, etc.). All attendees will be encouraged to participate in general discussions and to make recommendations for future research in the area.

## **WHITE PAPER SUBMISSION INSTRUCTIONS**

Responses to this RFI must be submitted via email to DARPA-SN-10-52@darpa.mil no later than 1200 (ET), 12 July 2010. Please include "NAC RFI" in the subject line in all correspondence.

## **WHITE PAPER FORMAT**

White papers should briefly summarize approaches and not exceed 6 pages, including figures but not including references. Format specifications include 12 point font, single-spaced, single-sided, 8.5 by 11 inches paper, with 1-inch margins in either Microsoft Word or Adobe PDF format.

- Cover Page (1 page)
  - a. Title of paper
  - b. Organization
  - c. Respondent's technical and administrative points of contact (names, addresses, phones and fax numbers, and email addresses)
  - d. Indication of willingness to attend the Workshop
  - e. Indication of willingness to compete at the Workshop
- Technical Ideas (up to 5 pages)
  - a. Executive summary
  - b. What will be the seed knowledge for such a tool set?
  - c. What basic technologies would be employed?
  - d. How will the tool work on a concrete example?

Respondents are encouraged to be as succinct as possible while at the same time providing actionable insight.

## **ELIGIBILITY**

DARPA invites participation from all those engaged in related research activities and appreciates responses from all capable and qualified sources including, but not limited to, universities, university-affiliated research centers, federally-funded research centers, private or public companies and Government research laboratories. *Again we encourage highly innovative approaches from all sectors of society, not simply traditional research organizations.*

## **DISCLAIMERS AND IMPORTANT NOTES**

This is an RFI issued solely for information and new program planning purposes; the RFI and workshop do not constitute a formal solicitation for proposals. In accordance with FAR 15.201(e), responses to this notice are not offers and cannot be accepted by the Government to form a binding contract. Submission of a white paper, and/or attendance at the workshop, is voluntary and is not required to propose to subsequent Broad Agency Announcements (if any) or research solicitations (if any) on this topic. DARPA will not provide reimbursement for costs incurred in responding to this RFI or participating in the RFI workshop. **NO PROPRIETARY OR CLASSIFIED INFORMATION SHALL BE INCLUDED IN THE RFI RESPONSE.** Respondents are advised that DARPA is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI.

Submissions may be reviewed by: the Government (DARPA and partners); Federally Funded R&D Centers (such as MIT Lincoln Laboratory); and Scientific, Engineering and Technical Assistance (SETA) contractors (such as Schafer Corporation, Science and Technology Associates, CACI International, and System Analysis, Inc.).

## **POINT OF CONTACT**

Dr. Michael Cox, IPTO Program Manager, DARPA, Email [DARPA-SN-10-52@darpa.mil](mailto:DARPA-SN-10-52@darpa.mil). **ANY INQUIRIES ON THIS RFI AND/OR WORKSHOP MUST BE SUBMITTED TO [DARPA-SN-10-52@darpa.mil](mailto:DARPA-SN-10-52@darpa.mil). NO TELEPHONE INQUIRIES WILL BE ACCEPTED.**